

Data set of surface water body distribution within 30 meters of Baikal Lake basin from 2013 to 2021

Data Documentation

I. Dataset/atlas content features

i. Abstract

This data set is a 30 meter surface water body distribution data set in the Baikal Lake basin from 2013 to 2021. It has 9 phases in total. The data is obtained from Landsat 8 image data through data preprocessing, model training and Google Earth Engine deployment prediction. The data format is TIF format, and the spatial resolution is 30 meters.

ii. Elements (content fields)

The data is named "Baikal_YYYY_nnn.tif". YYYY represents the year range 2013-2021, and nnn is the data sequence after slicing. The grid value range of data product is {0,1}, where 0 is non-water body and 1 is water body.

iii. Temporal cover

2013 - 2021

iv. Spatial cover

90° E -120° E, 45° N-60° N.

II. Subject/industry scope of dataset/atlas

i. Subject scope

Earth science, remote sensing, etc.

ii. Industry scope

Geographical information services, remote sensing surveying and mapping services, etc.;

iii. Other classifications (optional)

III. Accuracy of dataset/atlas

i. Time frequency

Annual.

ii. Spatial reference, accuracy, and granularity

Spatial reference: GCS_WGS_1984;

Spatial resolution: 30 m.

IV. Dataset/atlas storage management

i. Data quantity

150 MB (60.9 in compressed)

ii. Type format

TIF

iii. Update management

Irregular updating

V. Quality control of the dataset/atlas

i. Production mode

Landsat 8 image data and DEM were used to build feature bands, and the data set of surface water distribution within 30 meters of Baikal Lake basin was obtained through label noise correction, depth learning model training, and GEE cloud deployment. The data processing environment mainly includes

Python and Google Earth Engine.

ii. Data sources (condition selection)

Landsat 8 OLI images and NASA DEM data

iii. Methods of the data acquisition and processing (condition selection)

Use GEE to obtain the reflectance data of Landsat 8 surface observation images from June to August, and combine digital elevation model and image quality assessment bands to build water sensitive feature bands. The label noise correction is used to correct the water body information in the existing quality assessment band. Build an in-depth learning model to train water labels and image features. Finally, with the support of the GEE cloud platform, analyze the model weight through Python, and call the GEE interface to achieve online deployment.

VI. Sharing and usage method of the dataset/atlas

i. Sharing methods and restrictions

Fully opened sharing

ii. Contact information of the sharing service (condition selection)

Online link address:

Contact Information for Service:

Name: Service group of Disaster Risk Reduction Knowledge Service System of IKCEST

Address : 11A, Datun Road, Chaoyang District, Beijing, 100101, China, Institute of Geographic Sciences and Natural Resources Research, CAS.

Zip Code: 100101

E-mail: ikcest-drr@lreis.ac.cn

iii. Conditions and methods of usage

The dataset can be read by ArcGIS and ENVI software.

VII. Intellectual property rights of the dataset/atlas

i. Property rights (optional)

The property of the dataset belongs to the Institute of Geographic Sciences and Resources, Chinese Academy of Sciences.

ii. Reference method of the dataset/atlas

Data set of surface water body distribution within 30 meters of Baikal Lake basin from 2013 to 2021. Disaster Risk Reduction Knowledge Service of International Knowledge Centre for Engineering Sciences and Technology (IKCEST) under the Auspices of UNESCO, 2022.09

iii. Usage contacts of the datasets/atlas

Name: Service group of Disaster Risk Reduction Knowledge Service System of IKCEST

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E-mail: ikcest-drr@lreis.ac.cn

VIII. Others (optional)

In addition to the above, other information must also be explained.

Data documentation author information			
Data documentation author	LI Kai	Update time	2022-09-24
Organization	Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences.		
Contact information			

Address	A11 Datun Road, Chaoyang District, Beijing .		PostcodeS	100101
Telephone	010-64889048-8006	E-mail	lk@lreis.ac.cn	

